

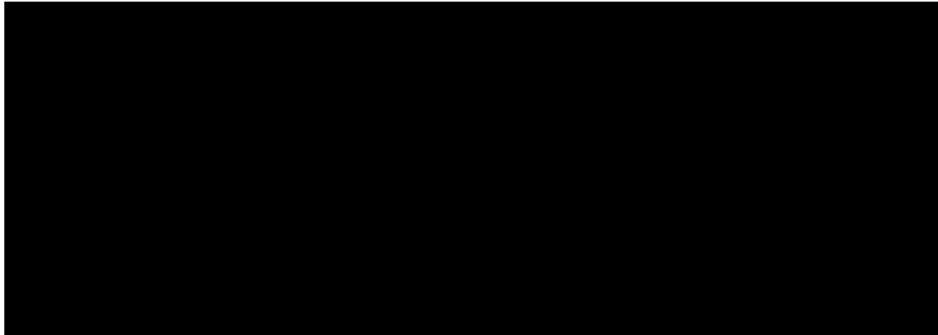
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Approved For Release 2000/08/15 : CIA-RDP96-00792R000400400003-7

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PART II OF II

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SUBJECT: [REDACTED] DEFENSE, SCIENCE,
TECHNOLOGY INSTITUTE REPORT, 16-30 NOV 92

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WARNING: THIS IS AN INFORMATION REPORT, NOT FINALLY
EVALUATED INTELLIGENCE. REPORT IS
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DEPARTMENT OF DEFENSE

C. BEIJING POSTS AND TELECOMMUNICATIONS (PT) RI
PROFESSOR DEVELOPS "32-GATE DIGITAL LOOP CONCENTRATOR
TELEPHONE SYSTEM" (PD, 21 NOV). PD CLAIMS THIS
DEVELOPMENT BY ASSOCIATE PROFESSOR ((WU)) FAZHENG (STC
2976/3127/2973) IS A "MAJOR BREAKTHROUGH IN
COMMUNICATIONS TECHNOLOGY". WITH WU'S CONCENTRATOR, 32
DIRECT-DIAL TELEPHONES CAN SHARE THREE COMMON TELEPHONE
LINES, THUS SAVING 29 LINES. THE DEVICE CAN BE FURTHER
EXPANDED SO THAT 128 DIRECT-DIAL PHONES CAN OPERATE ON
TEN TELEPHONE LINES, OR 512 TELEPHONES ON 32 LINES.
THE CONCENTRATOR PASSED TECHNICAL APPRAISAL TESTS IN
BEIJING ON 18 NOV. THE MINISTRY OF PT HAS DIRECTED ITS
CHANGCHUN TELEPHONE EQUIPMENT FACTORY TO PURCHASE
PROFESSOR WU'S TECHNOLOGY AND PUT IT IN SERIAL
PRODUCTION.

D. SHENZHEN OPTICAL COMMUNICATIONS DEVELOPMENT CO
PRODUCES OPTICAL FIBERS (OPF) OF HIGHEST QUALITY
(SHENZHEN SEZ DAILY, 23 NOV). THE GUANGDONG PROVINCE
ECONOMIC COMMISSION HAS APPROVED OPF AND CABLES
PRODUCED BY THE SHENZHEN CO FOR USE AS REPLACEMENTS FOR
IMPORTED PRODUCTS. THE CO IS THE FIRST IN CHINA TO
HAVE ACHIEVED SUCH RECOGNITION. SINCE EARLY 1991, THE
CO HAS SOLD OVER 2,000 KM OF OPF CABLES TO DOMESTIC AND
INTERNATIONAL FIRMS LAYING CABLES IN CHINA. THE
CONSULTATION COMMITTEE ON INTERNATIONAL TELEPHONES AND
TELEGRAPHS AND THE INTERNATIONAL ELECTRONICS COMMITTEE

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HAVE BOTH CERTIFIED THE PERFORMANCE OF THE CO'S PRODUCTS. IN SEP 92, THE CO SIGNED A CONTRACT TO SUPPLY TWO 6 KM OFF CABLES FOR THE BEIJING-HANKOU-GUANGZHOU OFF COMMUNICATIONS PROJECT.

E. MINISTRY OF PT REPORTS "SMOOTH PROGRESS" IN COOPERATIVE PROJECTS WITH CANADIAN SPAR COMMUNICATIONS GROUP (PD, 23 NOV). THE TWO SIDES RECENTLY SIGNED TECHNOLOGY TRANSFER CONTRACTS WORTH USD 60 MILLION CALLING FOR THE CANADIAN FIRM TO PROVIDE EVEN MORE ADVANCED COMMUNICATIONS TECHNOLOGY AND SOPHISTICATED COMMUNICATIONS NETWORK SYSTEMS. SPAR IS COOPERATING WITH THE U.S. "AL CO" TO INTRODUCE THE WORLD'S MOST ADVANCED TECHNOLOGIES INTO CHINA.

F. MINISTRY OF PT COMPLETES 2,896 KM OFF TRUNK CABLE LINE LINKING SHANGHAI, FUZHOU, AND GUANGZHOU (PD, TKP, AND ZHEJIANG DAILY, 25 NOV). THIS KEY 8TH FYP COMMUNICATIONS PROJECT IS THE LONGEST OFF TRUNK LINE EVER BUILT IN CHINA. IT LINKS 70 KEY CITIES IN THE PROVINCES OF ZHEJIANG, JIANGSU, FUJIAN, AND GUANGDONG, AS WELL AS THE TWO VITAL INDUSTRIAL CITIES OF SHANGHAI AND GUANGZHOU. THIS SOUTHERN COASTAL CABLE COST 450 MILLION YUAN AND TOOK OVER 3,000 MINISTRY WORKERS 13 MONTHS TO LAY. THE CABLE, WHICH OFFICIALLY WENT INTO OPERATION ON 24 NOV, INCREASES THE NUMBER OF LONG DISTANCE LINES IN THE CITIES THROUGH WHICH IT PASSES BY MORE THAN TEN FOLD. (SEE ALSO 1-15 OCT 92 DS TI REPORT.)

G. GENERAL STAFF DEPT (GSD) AND NANJING MR SET UP HIGHLY EFFICIENT MODERN URBAN TELEPHONE SYSTEM IN XUZHOU (LAD, 27 NOV). THE MR AND THE GSD COMMUNICATIONS DEPT HAVE CONDUCTED JOINT EXPERIMENTS IN THIS NORTH JIANGSU CITY TO REFORM IT AND THE MR'S COMMUNICATIONS MANAGEMENT SYSTEMS. THE NEW NETWORK SYSTEM THEY HAVE NOW PUT IN TRIAL OPERATION IS CENTRALLY-MONITORED AND SEPARATELY MANAGED. THE SEPARATE CIVILIAN AND MILITARY PARTS OF THE SYSTEM SHARE RESOURCES AND SUPPORT EACH OTHER. CURRENTLY, OVER 93 PERCENT OF THE COMMUNICATIONS EQUIPMENT AND TELEPHONE LINES IN THE SYSTEM MEET REQUIRED STANDARDS AND THE TELEPHONE PUT-THROUGH RATE IS ABOVE 98 PERCENT.

8. NUCLEAR/ELECTRIC POWER INDUSTRY

A. HONG KONG'S "CHINA STRATEGIC INVESTMENTS" INVESTS USD 200 MILLION IN SHANXI YANGCHENG THERMAL POWER PLANT (CD, 23 AND 28 NOV). THE HONG KONG CO WILL INVEST MORE THAN HALF OF THE USD 400 MILLION

REQUIRED TO PURCHASE THERMAL GENERATORS FROM OVERSEAS AND INSTALL THEM AT THE SITE IN EAST SHANXI PROVINCE. YANGCHENG //GEOCOORDS: 3532N/11236E// WILL BE EQUIPPED WITH FOUR 500,000 KILOWATT (KW) OR THREE 660,000 KW THERMAL GENERATORS. IT WILL BE THE LARGEST POWER PLANT IN THIS COAL-RICH REGION. CHINA STRATEGIC INVESTMENTS PLANS TO EXPORT MOST OF THE POWER PRODUCED BY THE PLANT TO NEEDY COASTAL PROVINCES, THUS ALLEVIATING THE BURDEN ON THE TRANSPORTATION SYSTEM OF SHIPPING COAL TO THESE AREAS.

B. SINO-FRENCH NUCLEAR FUEL COMPONENTS PRODUCTION LINE NOW UNDER CONSTRUCTION IN SICHUAN (PD, 23 NOV). THE CHINA NUCLEAR ENERGY CORP AND FRANCE'S FRAMATOME HAVE BEGUN CONSTRUCTION OF A NUCLEAR FUEL COMPONENT FACTORY IN YIBIN //GEOCOORDS: 2846N/10434E// IN SICHUAN PROVINCE. THE PRODUCTION LINE WILL PRODUCE NUCLEAR FUEL TO BE USED IN THE DAYA BAY NUCLEAR POWER STATION IN GUANGDONG PROVINCE. (SEE ALSO 1-15 MAR 92 DSTI REPORT.)

C. CONSTRUCTION BEGINS ON FIRST STAGE OF 1.45 MILLION KW SHEYANGGANG POWER PLANT IN JIANGSU PROVINCE (CHINA MARITIME NEWS - CMN, 25 NOV). THIS KEY 8TH FYP PROJECT, LOCATED NEAR THE EAST COAST CITY OF YANCHENG, BEGAN CONSTRUCTION ON 30 OCT. DURING THE FIRST STAGE OF THE PLANT'S CONSTRUCTION, TWO 125,000 KW GENERATORS WILL BE INSTALLED AT A COST OF 605 MILLION YUAN. THE SECOND AND THIRD STAGES OF THE PLANT WILL BOTH INVOLVE ADDITIONS OF TWO 300,000 KW GENERATOR UNITS EACH.

D. CHINESE RI'S DEVELOP "HIGH TEMPERATURE GAS-COOLED REACTOR HELIUM PURIFICATION TECHNOLOGY" (CMN, 23 NOV). CAS'S HIGH ENERGY RI AND THE NUCLEAR INDUSTRY'S NUMBER 2 RESEARCH AND DESIGN ACADEMY JOINTLY DEVELOPED THIS HIGH TECH RESEARCH TECHNIQUE. THE PROJECT, WHICH WAS A KEY TASK UNDER THE 1988 STATE PLAN, RECENTLY PASSED TECHNICAL APPRAISAL TESTS IN GUANGZHOU. (NO FURTHER DATA.)

E. SECOND SUPERCRITICAL 600,000 KW GENERATING UNIT AT SHANGHAI SHIDONGKOU NUMBER 2 POWER PLANT GOES INTO OPERATION (PD, 26 NOV; SCIENCE AND TECHNOLOGY DAILY, 3 DEC) THE SECOND SUPERCRITICAL 600,000 KW GENERATOR IMPORTED FOR THE PLANT BEGAN SUPPLYING POWER TO THE SHANGHAI POWER GRID ON 23 NOV. THE FIRST 600,000 KW GENERATOR BEGAN OPERATING IN JUN 92. (SEE ALSO 1-15 JUN 92 DSTI REPORT.)

F. CHINA INSTALLS IMPORTED "AUTOMATED SCHEDULING SYSTEM" FOR ITS FOUR MAJOR POWER NETWORKS (PD, 30

NOV). CHINA HAS IMPORTED AUTOMATED POWER NETWORK SCHEDULING SYSTEMS FROM ABROAD WHICH CAN PERFORM 17 KEY FUNCTIONS, INCLUDING DATA COLLECTION AND PROCESSING, RAPID WARNING, ACCIDENT RECOLLECTION, COMMUNICATIONS, AND AUTOMATIC CONTROL OF REALTIME POWER GENERATION. THE SYSTEM HAS ALREADY BEEN HOOKED UP TO THE NORTHEAST, CENTRAL, AND NORTH CHINA POWER GRIDS, AND WAS CONNECTED TO THE EAST CHINA POWER NETWORK ON 28 NOV.

9. MEDICAL SCIENCE

A. SOLDIER FROM UNIDENTIFIED (UI) GRASSROOTS UNIT USES QIGONG TO CURE ILLNESSES OF OVER 2,000 SOLDIERS AND CIVILIANS (LAD, 17 NOV). ((FAN)) HAILONG (STC 2868/3189/7893), A SOLDIER IN THE SECOND CO OF AN UI ARMY REGIMENT, HAS REPORTEDLY USED THE ANCIENT CHINESE ART OF QIGONG TO CURE A VARIETY OF ILLNESSES AFFLICTING PEOPLE BOTH INSIDE AND OUTSIDE THE MILITARY. THE SOLDIER HAS NOW BEEN ADMITTED AS A MEMBER OF THE XIJING S AND T RESEARCH ORGANIZATIONS WHICH HAS THE GOAL OF DEVELOPING TRADITIONAL CHINESE MEDICINES. FAN HAS USED QIGONG TO CURE PATIENTS SUFFERING FROM HYPEROSTEOGENY AND RENAL FAILURE. THE PATIENTS SEEM TO RECOVER QUICKLY AFTER UNDERGOING THE SOLDIER'S QIGONG MASSAGE TREATMENTS.

B. CAS'S SHANGHAI PHYSIOLOGICAL RI DEVELOPS SERIES OF "MYOELECTRICALLY-CONTROLLED ARTIFICIAL LIMBS" (PD, 19 NOV). THESE SPECIAL ARTIFICIAL LIMBS WERE DEVELOPED BY A RESEARCH TEAM AT THE RI HEADED BY PROFESSOR ((LUO)) YONGZHAO (STC 5012/3057/2507). THE MOVEMENTS OF ARTIFICIAL HANDS, WRISTS, AND ELBOWS DEVELOPED BY THE RI ARE CONTROLLED BY BIOELECTRIC SIGNALS PRODUCED BY HUMAN MUSCLES. MOVEMENTS OF JOINTS CAN BE COORDINATED SO THAT THE ARTIFICIAL LIMB CAN PERFORM ROUTINE DAILY FUNCTIONS SUCH AS DRINKING WATER, EATING MEALS, ANSWERING THE TELEPHONE, AND SHAKING HANDS.

C. WUHAN UNIVERSITY RESEARCHERS DEVELOP "E-ANTIGEN REAGENT" FOR DETECTING SERUM HEPATITIS (CD, 19 NOV). THE UNIVERSITY HAS NOW SET UP A CORP AND PRODUCTION FACILITIES WHICH WILL BE READY TO BEGIN PRODUCING THE REAGENT IN JUL 93. AT FULL CAPACITY, THE FACTORY WILL BE ABLE TO PRODUCE 1.25 MILLION BOXES OF THE REAGENT ANNUALLY. THE UNIVERSITY ESTIMATES THAT CHINA REQUIRES OVER 200 MILLION DIAGNOSTIC TESTS ANNUALLY, TO DEAL WITH 40 MILLION HEPATITIS PATIENTS AND 110 MILLION HEPATITIS VIRUS CARRIERS.

D. CHINESE MEDICAL RI'S AND TAIWAN CO COOPERATE IN

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DEVELOPING RADIO-FREQUENCY TREATMENT INSTRUMENT FOR PROSTATITIS (PD, 21 NOV). BEIJING CENTRAL HOSPITAL, THE CHINA DAHENG CO, AN UI TAIWAN CO, AND THE SUZHOU MEDICAL COLLEGE'S NUMBER 1 AFFILIATED HOSPITAL WORKED TOGETHER TO DEVELOP THIS ADVANCED TREATMENT DEVICE. THE INSTRUMENT PROVED ITS EFFECTIVENESS IN TREATING PROSTATITIS DURING OVER 80 CLINICAL TESTS. THE MINISTRY OF HEALTH ESTIMATES THAT OVER 50 PERCENT OF CHINESE MALES ARE EVENTUALLY AFFLICTED WITH THE DISEASE, WHICH PREVIOUSLY COULD ONLY BE TREATED BY SURGERY.

E. BEIJING HUAXIONG RI DEVELOPS "HX TUMOR PROBER" FOR DETECTION OF CANCER IN ITS EARLY STAGES (CD, 30 NOV). THE RI'S TUMOR DETECTOR HAS BEEN CLINICALLY TESTED AT THE SINO-JAPANESE FRIENDSHIP HOSPITAL, THE CHINESE ACADEMY OF MEDICAL SCIENCE'S TUMOR HOSPITAL AND THE BEIJING MEDICAL SCIENCE UNIVERSITY'S TUMOR PREVENTION AND TREATMENT CENTER WITH HIGH SUCCESS. OF THE OVER 54,000 PEOPLE TESTED WITH THE DEVICE, MORE THAN 90 PERCENT OF ITS EXAMINATION RESULTS WERE LATER PROVEN CORRECT. THE RI HAS RECEIVED A MAJOR SCIENTIFIC ACHIEVEMENT AWARD FROM THE BEIJING S AND T COMMISSION FOR THIS DEVELOPMENT.

10. PLA SERVICES AND ARMS R AND D ACHIEVEMENTS

A. PLA AIR FORCE AERIAL MAPPING UNITS PRODUCE THIRD-GENERATION AERIAL MAPS (LAD, 26 NOV). ON 25 NOV, THE AIR FORCE ANNOUNCED THE COMPLETION OF A PROJECT TO SET UP A MULTI-PURPOSE MAP SYSTEM CONSISTING OF ORDINARY AERIAL MAPS PLUS OVER 50 KINDS OF SPECIALIZED AERIAL MAPS. THIS NEW GENERATION OF MAPS IS IDEALLY SUITED TO MEET THE NEEDS OF AIR FORCE COMMAND, OPERATIONS, AND TRAINING ACTIVITIES. THE MAPS RECENTLY PASSED TECHNICAL APPRAISAL TESTS GIVEN BY EXPERTS.

B. PLA AIR FORCE ENGINEERING RESEARCH AND DESIGN BUREAU DEVELOPS "AUTOMATIC 3-AXLE GAUGE AND PROCESSING SYSTEM" (CD, 27 NOV). THE AIR FORCE USED TO RELY ON ARTIFICIAL COLLECTION AND PROCESSING DATA IN PERFORMING 3-AXLE TESTS. THIS OFTEN RESULTED IN HUMAN ERROR AND GROSS INACCURACIES. THE NEW AUTOMATIC SYSTEM IS EXPECTED TO RAISE WORK EFFICIENCY UP TO 30 FOLD OVER PREVIOUS MANUAL SYSTEMS.

C. UI GSD RI DEVELOPS "ASSEMBLY-TYPE FIELD DEFENSIVE WORKS" FOR HIGHLANDS AND EXTREME COLD REGIONS (LAD, 30 NOV). THE RI SPENT 5 YEARS OF EFFORT RESEARCHING VARIOUS TYPES OF FIELD DEFENSIVE WORKS.

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THE NEW DEFENSIVE FORTIFICATIONS CAN BE PLACED ON THE EARTH'S SURFACE IN TEMPERATURES BELOW 30 DEGREES C. THEY ARE INSULATED AGAINST EXTREME COLD AND ARE HIGHLY EFFICIENT IN PRESERVING HEAT. THE FACILITIES CAN BE USED FOR COMMAND AND CONTROL, COMMUNICATIONS, RESCUE WORK, CONCEALMENT, AS FIRING AND OBSERVATION POSTS, AND FOR MATERIAL PROTECTION PURPOSES.

D. CHENGDU MR HEADQUARTERS AND GSD SURVEY AND MAPPING ACADEMY JOINTLY DEVELOP "3-DIMENSIONAL NUMERICAL CONTROL AUTOMATIC TERRAIN SHAPING SYSTEM" (LAD, 30 NOV). THE SYSTEM EMPLOYS SATELLITE PHOTOGRAPHY AND ORDINARY TOPOGRAPHIC MAPS TO AUTOMATICALLY CREATE 3-DIMENSIONAL MODELS OF EXISTING TOPOGRAPHICAL AREAS. THE SYSTEM CAN ACCURATELY SHAPE THESE MODELS IN THE PROPER PROPORTIONS WITHIN 2 HOURS. IT PASSED TECHNICAL APPRAISAL TESTS IN CHENGDU ON 27 NOV. THE TERRAIN MODELS PRODUCED CAN BE USED IN "SAND TABLE TRAINING" AND IN PREPARING FOR ACTUAL MILITARY OPERATIONS.

11. DEFENSE CONFERENCES AND EXHIBITIONS

A. HONG KONG JOURNALS CLAIM CHINESE SEEK HIGH TECH WEAPONRY IN CONJUNCTION WITH VISIT OF RUSSIAN VICE PREMIER TO BEIJING (FAR EAST ECONOMIC REVIEW, 12 NOV; SCMP, 12 AND 23 NOV). ALEXANDER ((SHOKHIN)), RUSSIAN VICE PREMIER IN CHARGE OF EXTERNAL ECONOMIC RELATIONS, VISITED BEIJING IN NOV. HE WAS REPORTED TO HAVE MET WITH KEY MILITARY LEADERS AND CMC VICE CHAIRMAN, ((LIU)) HUAQING, TO DISCUSS CHINA'S DESIRES TO ACQUIRE ADVANCED RUSSIAN MILITARY TECHNOLOGY. SHOKHIN ALSO MET WITH THE HEAD OF THE COMMISSION ON SCIENCE, TECHNOLOGY, AND INDUSTRY FOR NATIONAL DEFENSE (COSTIND), ((DING)) HENGGAO, AND GSD VICE CHIEF, ((CAO)) GANGCHUN. THE REVIEW HAS REPORTED THAT THERE WERE TWO SECRET RUSSIAN MILITARY INTELLIGENCE VISITS TO CHINA BEFORE THE SHOKHIN VISIT; AND THAT THE RUSSIANS HAVE ALREADY SOLD THE CHINESE MISSILE GUIDANCE AND ROCKET TECHNOLOGY AND ROCKET ENGINES AND SURFACE-TO-AIR MISSILES, INCLUDING THE S300 AIR-DEFENSE MISSILE SYSTEM. SCMP SPECULATES THAT THE RUSSIANS HAVE AGREED TO SELL ADDITIONAL SU-27 (BEYOND THE 26 ALREADY ON ORDER) AND MIG-29 FIGHTERS TO CHINA, AS WELL AS NAVAL SURFACE COMBATANTS, DIESEL SUBMARINES, AND VARIOUS LAND WEAPONS. THE SALES COULD BE WORTH MORE THAN USD 3 BILLION AND HELP OFFSET OUTSTANDING CHINESE CREDITS TO RUSSIA OVER THE PAST YEAR.

B. COSTIND PUBLISHES BOOK ON THE HISTORY OF

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CHINA'S DEFENSE S AND T DEVELOPMENTS (NEW CHINA NEWS AGENCY, 17 NOV). THE BOOK, ENTITLED "NATIONAL DEFENSE S AND T IN CONTEMPORARY CHINA", WAS LAUNCHED BY CMC VICE CHAIRMAN LIU HUAQING AND OTHER MILITARY LEADERS DURING CEREMONIES AT THE GREAT HALL OF THE PEOPLE ON 17 NOV. THE BOOK CONTAINS OVER 800,000 CHARACTERS AND DESCRIBES THE TORTUOUS PATH OF DEVELOPMENT OF CHINA'S NUCLEAR WEAPONS, STRATEGIC MISSILES, MISSILE-EQUIPPED NUCLEAR SUBMARINES, MAN-MADE SATELLITES, AND CONVENTIONAL WEAPONS. THE BOOK INCLUDES DETAILS OF FACTUAL MISTAKES AND FRUSTRATIONS ENCOUNTERED IN THE DEVELOPMENT PROCESS.

C. CHINA HOSTS "1992 FOURTH NATIONAL COMPUTER SOFTWARE TRADE FAIR" IN BEIJING (PD, 23 NOV). OVER 100 ORGANIZATIONS DISPLAYED ABOUT 2,000 ITEMS OF SOFTWARE DURING THE FAIR, HELD FROM 18 TO 23 NOV. OVER 300,000 PEOPLE WERE INVOLVED IN DEVELOPMENT OF THE SOFTWARE SHOWN AT THE FAIR, SOME OF WHICH WON INTERNATIONAL AND NATIONAL AWARDS. ANNUAL SALES OF SOFTWARE IN 1991 REACHED 120 MILLION YUAN, PLUS USD 10 MILLION IN EXPORTS AND USD 40 MILLION IN IMPORTS.

COMMENTS: 1. (SOURCE COMMENTS) THE STATE EDUCATION COMMISSION HAS LAUNCHED A 10 YEAR "PROJECT 211" PROGRAM WHICH IT CLAIMS IS DESIGNED TO GIVE CHINA'S TOP 100 UNIVERSITIES "INTERNATIONAL STANDING" (PARA 3A). THE STATE IS APPARENTLY WILLING TO INVEST A CONSIDERABLE AMOUNT OF ITS SCARCE EDUCATION FUNDS IN THE PROJECT, WHICH SEEMS TO HAVE SOMEWHAT EPHEMERAL GOALS. IT IS LIKELY THAT CHINA'S ELDERLY XENOPHOBIC LEADERS ARE HUMILIATED BY THE FACT THAT THE COUNTRY MUST SEND THOUSANDS OF ITS BRIGHTEST YOUNG PEOPLE TO JAPAN AND THE WEST TO BE EDUCATED IN ADVANCED S AND T; AND TH AT MANY OF THESE STUDENTS REFUSE TO RETURN TO THE MOTHERLAND AFTER THEY HAVE EXPERIENCED REAL FREEDOM OF THOUGHT. "PROGRAM 211" IS PROBABLY INTENDED TO ESTABLISH THE STATURE OF CHINA'S TOP UNIVERSITIES ON A PAR WITH LEADING WORLD INSTITUTIONS SO THAT CHINA'S YOUTH CAN STAY HOME AND GET A USEFUL EDUCATION. THIS WILL REQUIRE LARGE NUMBERS OF FOREIGN PROFESSORS TO PAY EXCHANGE TEACHING VISITS TO CHINESE UNIVERSITIES TO RAISE THE SCHOOLS' UNIVERSAL QUALIFICATIONS. THIS WILL ALSO BE ANOTHER WAY THAT CHINA CAN OBTAIN ACCESS TO ADVANCED WESTERN S AND T.

2. ((CHEN)) JINHUA, HEAD OF THE COMMISSION ON RESTRUCTURING THE ECONOMY, HAS PREPARED AN ARTICLE FOR PD IN WHICH HE CLEARLY OUTLINES FOUR CRITICAL STEPS THAT MUST BE TAKEN BY STATE-LEVEL DEPTS AND ENTERPRISES

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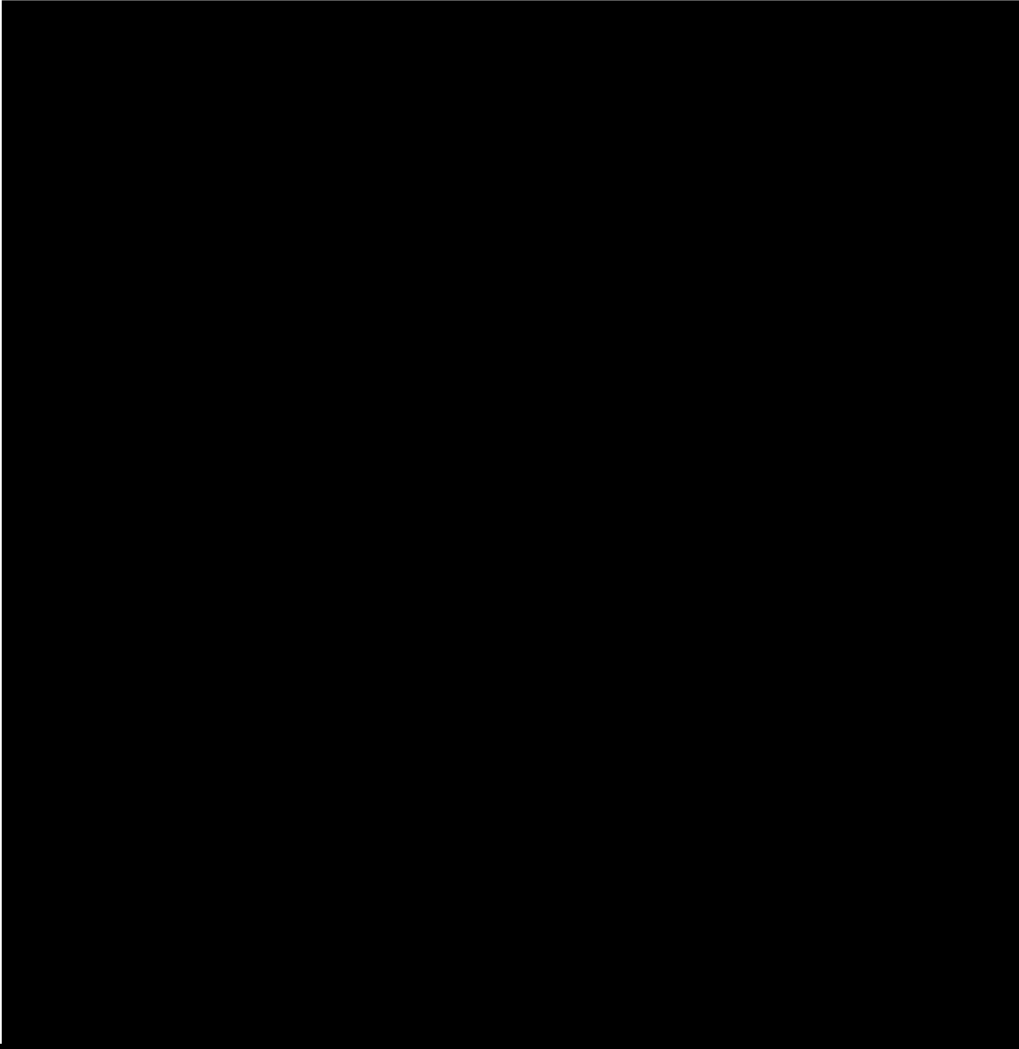
IF CHINA'S VAUNTED ECONOMIC REFORM PROGRAM IS TO MOVE AHEAD EXPEDITIOUSLY (PARA 3B). CHEN'S RECOMMENDATIONS LEAVE NO DOUBT THAT CHINA HAS ENTERED A CRITICAL PERIOD IN THE REFORM PROCESS, DURING WHICH THE SHIFT TO THE MARKET ECONOMY MUST BE EMBRACED AND ANY RETRENCHMENT OR STEPS BACKWARD COULD FATAALLY DAMAGE THE REFORM MOVEMENT ITSELF. HOWEVER, MANY LEADING CHINESE ECONOMISTS FEAR THAT THE SPC, THE BULWARK OF THE OLD PLANNED AND CENTRALLY REGULATED ECONOMY, IS FILLED WITH LEADERS WHO ARE RELUCTANT TO GIVE UP THE OLD SYSTEM (PARA 3D). THESE PEOPLE HAVE WORKED UNDER THE PLANNED ECONOMY SO LONG THAT THEY DO NOT BELIEVE IN OR UNDERSTAND THE BASIC PRECEPTS OF A MARKET ECONOMY. THEY ARE NOT ASSUAGED BY ECONOMIC REFORMISTS WHO GIVE THE REFORMS THE WARM-SOUNDING TITLE OF A "SOCIALIST MARKET ECONOMY". THE REFORMERS CHARGE THESE HARDLINERS WITH HAMSTRINGING THE ECONOMIC REFORMS CALLED FOR IN THE 8TH FYP AND WARN THAT, IF THESE OBSTACLE-MAKERS ARE NOT STOPPED, THE WHOLE REFORM PROCESS COULD FAIL.

3. IA'S OCT 92 EDITION HAS CONTINUED WITH ITS PROGRAM OF HAILING THE 40TH ANNIVERSARY OF THE AERONAUTICS INDUSTRY BY PROFILING SOME OF THE KEY "THINK TANKS" AND RI'S RESPONSIBLE FOR IMPORTANT DEVELOPMENTS IN THE INDUSTRY. THE NANJING AERONAUTICAL INSTITUTE IS A GIGANTIC ORGANIZATION HOUSING A VAST NUMBER OF COLLEGES, DEPTS, SUBORDINATE RI'S, CENTERS AND ORGANS INVOLVED IN TRAINING CHINA'S NEW CROP OF SCIENTISTS WHILE SIMULTANEOUSLY LEADING ITS AERONAUTICAL R AND D EFFORTS (PARA 5A). THE INSTITUTE IS KNOWN TO BE CARRYING OUT SOME OF CHINA'S MOST ADVANCED R AND D PROJECTS, INCLUDING DEVELOPMENT OF STEALTH TECHNOLOGY. IT ALSO HAS DESIGNED AND BUILT A WHOLE FAMILY OF SUPERLIGHT AIRCRAFT AS DESCRIBED IN PARA 5B. THE XIAN NORTHWESTERN POLYTECHNICAL UNIVERSITY IS ALSO HUGE, AND COMMITTED TO BOTH TRAINING CHINA'S NEW CROP OF AERONAUTICAL ENGINEERS AND CARRYING OUT KEY R AND D PROJECTS IN THE FIELDS OF AUTOMATION AND CAD/CAM TECHNOLOGY (PARA 5C). THE BEIJING UNIVERSITY OF AERONAUTICS AND ASTRONAUTICS IS THE "MOTHER SCHOOL" FOR TRAINING MASI SCIENTISTS AND ENGINEERS (PARA 5D). IT ALSO UNDERTAKES KEY R AND D PROJECTS IN ADVANCED COMPUTER SCIENCES. THE UNIVERSITY'S SUCCESSES APPEAR ALMOST MONTHLY IN THE PACES OF CHINA'S S AND T JOURNALS.

4. CSN HAS PROFILED THE CSSC SENIOR ENGINEER RESPONSIBLE FOR DEVELOPING THE ELECTRONIC COUNTERMEASURES (ECM) SYSTEMS FOUND ON PLA NAVY WARSHIPS (PARA 6A). ((FENG)) GUOHUA IS ABOUT 50 YEARS OLD AND HAS BEEN WORKING ON NAVAL ELECTRONIC WARFARE SYSTEMS FOR ABOUT 12 YEARS. HE APPARENTLY WAS A RADAR

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TECHNICIAN FOR THE FIRST HALF OF HIS CAREER AFTER GRADUATING FROM UNIVERSITY. THE CHINESE ARE NOT THOUGHT TO HAVE ADVANCED ECM SYSTEMS; BUT FENG SHOULD HAVE A GOOD MANY MORE YEARS TO CARRY OUT R AND D AT CSSC'S NUMBER 11 RESEARCH OFFICE IN ORDER TO COME UP WITH MORE ADEQUATE EQUIPMENT.



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